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Pearson Level 3 Alternative Academic Qualification BTEC National in Computing (Extended Certificate)

Qualification Number: 610/3963/9

The Pearson Level 3 Alternative Academic Qualification in Computing (Extended Certificate) is designed for post-16 students with an interest in the Digital sector and aiming to progress to higher education as a route to graduate level employment.

Equivalent to one A level in size, it is suitable for students looking to develop their applied knowledge and skills in Computing as part of a study programme alongside two A levels.

What will the student study as part of this qualification?

The qualification has been developed in consultation with higher education representatives and sector experts to ensure students have the knowledge, understanding and skills needed to progress to, and thrive in, higher education.

The qualification has four mandatory units covering the following topic areas:

- **Programming Fundamentals** – Computing concepts and their application through programming and design methodologies
- **Computer Network Security and Encryption** – Types and origins of security threats, relevant regulations, methods and tools to detect and prevent threats, and concepts and algorithms of encryption
- **Human-Computer Interaction** – User experience (UX) and user interface (UI) design principles and their application in creating interfaces; key principles of HCI design, including meeting diverse needs of users
- **Practical Programming** – Principles of computer science related to software development and their application in developing and managing a software solution.

What knowledge and skills will the student develop as part of this qualification and how might these be of use and value in further studies?

Students will develop the following knowledge and skills:

- Applied knowledge and understanding of programming design and methodologies and principles of software development in relation to solving specific problems

- Applied knowledge and understanding of how to detect and prevent different types of security threats and design user experiences and user interfaces to meet the diverse needs of users
- Technical skills to:
    - Create a design proposal for an accessible HCI solution to meet the requirements of a brief and develop and evaluate the solution
    - Manage the development of a software solution to meet the requirements of a brief
- Transferable skills such as problem solving, creativity and innovation, written communications and taking personal responsibility.

Students can develop transferable skills such as written communication to support the design and creation of digital solutions using technical and non-technical language in user and technical documents.

Students will develop critical thinking skills which will be beneficial when students encounter group analytical tasks in higher education. Taking personal responsibility for their learning on this qualification will help students to manage their work and balance the demands of many degree programmes which require independent study.

This qualification is part of a suite. The Pearson Level 3 Alternative Academic Qualification BTEC National in Computing (Certificate), equivalent to half an A Level in size, provides students with the opportunity to develop an understanding of the digital sector to progress into the sector through degree or degree apprenticeship pathways. It also allows for progression onto degree programmes with significant Computing content, which is the case in many sectors.

This Extended Certificate size is for those students who require additional Computing knowledge and skills to progress into Higher Education to study degrees that have programming or computing elements within them.

Which subjects will complement this qualification?

The following subjects would be suitable to combine with this qualification:

- Business
- Mathematics
- Physics

What further learning will this qualification lead to?

This qualification can lead to progression to the following degrees:

- BSc Computer Science
- BSc Software Engineering
- BSc Computer Games and Animation

This qualification is supported by the following Higher Education Institutions:

- Aberystwyth University
- Aston University
- Cardiff Metropolitan University
- Cardiff University
- Kingston University
- Nottingham Trent University
- Ulster University
- University of Bath
- University of Bradford
- University of Huddersfield
- University of Leeds
- University of Liverpool
- University of Nottingham
- University of Oxford
- University of Plymouth
- University of Sheffield
- University of the West of England

Further information

https://qualifications.pearson.com/en/qualifications/btec-nationals/computing-aaq.html